

REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claim 1 to recite a coating film obtained by polymerizing and curing a specified coating composition. In light of this amendment of claim 1, which in substance incorporates the subject matter of claim 6 into claim 1, claims 6 and 9 have been cancelled without prejudice or disclaimer, preambles of claims 2-5 and 8 have been amended, and dependencies of claims 7 and 10 have been amended. Moreover, Applicants have further amended claim 1 to further define the modified silicone oil, consistent with the description on page 9 of Applicants' specification. Applicants have amended claim 2 to recite that "the coating film composition" further includes the specified component, and have corrected a grammatical error in claim 3.

Moreover, Applicants are adding new claims 11-14 to the application. Claims 11-13, each dependent on claim 1, define a thickness of the coating film, consistent with the description on page 4, lines 13-15, of Applicants' specification. Claim 14, dependent on claim 1, recites that the coating film further includes an inorganic filler. Note, for example, the first full paragraph on page 13 of Applicants' specification.

The rejection of claims 1-10 under the second paragraph of 35 U.S.C. §112, as being indefinite, on the basis that it is unclear "what is intended and embraced" by "modified", as it describes the silicone oil, is noted. Applicants have amended claim 1 to further define the modified silicone oil, as being selected from a specific group thereof as set forth on page 9 of Applicants' specification. In view of this amendment of claim 1, it is respectfully submitted that the rejection of claims under the second paragraph of 35 U.S.C. §112 is moot.

Applicants respectfully submit that all of the claims presented for consideration by the Examiner patentably distinguish over the teachings of the prior art applied by the Examiner in rejecting claims in the Office Action mailed February 8, 2008, that is, the teachings of Japanese Patent Document No. 2002-302549, and U.S. Patent No. 6,130,307 to Amagai, et al., under the provisions of 35 U.S.C. §103.

Initially, Applicants respectfully traverse the contention by the Examiner that United States Patent Application Publication No. 2005-0261467 to Tamura, et al is an "English language equivalent" to JP 2002-302549. Thus, note JP 2002-302549 is the published application corresponding to Japanese Patent Application No. 2001-109154, which is one of the foreign priority applications for Tamura, et al. The other is JP 2001-139614, having a later filing date than that of No. 2001-109154. It is respectfully submitted that there is not a description about silicone oil in JP 2002-302549. It is respectfully submitted that the Examiner errs in contending that Tamura, et al is an English-language equivalent of JP 2002-302549. It is respectfully submitted that the rejection under 35 U.S.C. §103 based on the teachings of JP 2002-302549 must fall on this basis alone.

In any event, note that the cited Tamura, et al patent application publication is indicated as being a Division of Application No. 10/297,383, filed on December 6, 2002. Application No. 10/297,383, filed under 35 U.S.C. §371 of International (PCT) Application No. PCT/JP02/03388, filed on April 4, 2002, is now U.S. Patent No. 7,169,845, issued January 30, 2007. International (PCT) Application No. PCT/JP02/03388 was published as International (PCT) Published Application No. WO 02/083763, on October 24, 2002.

It is respectfully submitted that the teachings of the references as applied by the Examiner and listed previously, would have neither disclosed nor would have suggested the presently claimed coating film, formed by polymerizing and curing a coating composition containing, in addition to specified amounts of a thiirane ring-containing compound and a catalyst for accelerating polymerization thereof, a specified amount of a modified silicone oil selected from the group consisting of the modified silicon oils with the formulas (3)-(6) in claim 1. See claim 1.

In addition, it is respectfully submitted that these references as applied by the Examiner would have neither disclosed nor would have suggested such a coating film as in the present claims, having features as discussed previously in connection with claim 1, and having further features as in the dependent claims presently in the application, including (but not limited to) wherein the coating film has a thickness as in claims 11-13; and/or wherein the coating film composition utilized in forming the coating film further includes a silane coupling agent (see claim 2), or wherein the coating film further includes an inorganic filler (see claim 14); and/or wherein the compound (C) has a surface-active property (see claim 3); and/or further definition of the compound (A) as in claims 4 and 5; and/or wherein such coating film is provided on a surface of an optical product, as in claims 7 and 10.

The invention being claimed in the above-identified application is directed to coating films obtained by polymerizing and curing a composition including a thiirane ring-containing compound, and optical products provided on a surface thereof with such coating film.

As described in the paragraph bridging pages 1 and 2 of Applicants' specification, the present inventors have found novel sulfur-containing compounds

having episulfide structures, and have developed transparent resins having a high refractive index. Such compounds have been disclosed as being cast into a mold, and then polymerized and cured to obtain a cured product thereof.

But there is a strong demand for applying the transparent resins to coating materials for various substrates or films.

However, since film materials made of the transparent resins generally exhibit a poor wetting property to various substrates, it is difficult to stably form a thin film having a thickness of from several μm to several tens μm . Note, for example, page 2, lines 5-8 of Applicants' specification.

As described in the last paragraph on page 2 of Applicants' specification, there have been proposed compositions composed of the thiirane ring-containing compound and a silane coupling agent; however, such silane coupling agents have been added in order to achieve proper molding. Note also the paragraph bridging pages 2 and 3 of Applicants' specification, describing other uses of thiirane ring-containing compounds, including in coating films used for dental purposes, required to exhibit a high hiding property.

Against this background, it is still desired to provide coating films having a high refractive index, little discoloration and having transparency, uniformity and adhesion property.

As a result of extensive studies, Applicants have found that coating films formed by polymerizing and curing a coating composition as in the present claims exhibit a high refractive index, little discoloration and excellent transparency and uniformity. In particular, Applicants have found that a coating composition utilized for forming the coating film of the present invention exhibits a good wetting property, wherein, for

example, the compositions include the modified silicone oil as recited in the present claims.

While Tamura, et al will be discussed in the following, it is again emphasized that Tamura, et al does not qualify as an English-language equivalent of JP 2002-302549.

Tamura, et al discloses a composition for a resin suitable as a starting material for an optical material such as a plastic lens, prism, optical fiber, information recording medium and filter, the composition including a polymerization regulator for controlling the polymerization rate of an episulfide compound. See paragraphs [0010] - [0012] on pages 1 and 2 of Tamura, et al. Note, also paragraphs [0016] and [0017] on page 2; and paragraph [0032] on pages 3 and 4 of this patent document. This patent document goes onto to describe, in paragraph [0155] on page 15, that when the cured resin is difficult to release from molds after the polymerization, it is effective to use a known external or internal mold releasing agent, thereby improving the releasability from the molds of the cured material being formed, examples of the internal mold releasing agent being set forth in the paragraph [0155]. See also paragraph [0156] on pages 15 and 16 of this patent document.

Amagai, et al discloses a composition for a resin which is advantageously used for optical materials, the composition comprising (a) a compound having one or more structures represented by the formula (1) as set forth in line 40 of column 2; and (b) a compound having one or more isocyanate groups and/or thioisocyanate groups in one molecule. See column 2, lines 34-57. This patent discloses that the resin is obtained by curing the composition by polymerization. See also, column 5, lines 39-42. In the paragraph bridging columns 14 and 15 of this patent, it is disclosed that when the composition tends to show difficulty in cleavage from molds after polymerization, it is

possible that the property to release the obtained cured material from the molds is improved by using or adding a conventional external or internal mold release, examples thereof being given.

It is emphasized that each of Tamura, et al and of Amagai, et al disclose including silicone materials in the compositions for release from a mold. In contrast, according to the present invention the recited coating film has an improved wetting property of the coating composition used in forming the film, due to, inter alia, the recited silicone oil included in the composition. It is respectfully submitted that the wetting property is diametrically opposed to the internal mold release. Especially in view thereof, it is respectfully submitted that the teachings of Tamura, et al as applied by the Examiner, even if constituting prior art, and Amagai, et al, would have neither disclosed nor would have suggested the presently claimed coating film, formed by polymerizing and curing the coating composition of the present claims, including, inter alia, the recited modified silicone oil.

The contention by the Examiner that the nonionic silicone containing surfactants and polysiloxanes in paragraph [0155] of Tamura, et al, and the nonionic silicone-containing surfactants and polysiloxanes in column 15 of Amagai, et al, meet the presently claimed component (C), is respectfully traversed. It is respectfully submitted that such materials as in Tamura, et al and as in Amagai, et al, used to facilitate release from the mold, would have neither taught nor would have suggested including the modified silicone oil as in the present claims, and function thereof, as discussed previously.

In view of the foregoing comments and amendments, reconsideration and allowance of all claims presently in the above-identified application are respectfully requested.

Applicants request any shortage of fees due in connection with the filing of this paper be charged to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (case 396.45772X00), and please credit any excess fees to such Deposit Account.

Respectfully submitted,

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